Ecological Reference Worksheet **MT-NRCS**

Author(s)/participant(s): Loretta Metz .
Contact for lead author: Bozeman, MT **Reference site used? No**
Date: 04/23/2005 **MLRA: 46XS Ecological Site: Clayey 13-19" p.z.** (formerly Clayey 15-19" p.z.) This *must* be verified based on soils and climate (see Ecological Site Description). Current plant community *cannot* be used to identify the ecological site.

Indicators. For each indicator, describe the potential for the site. Where possible, (1) use numbers, (2) include expected range of values for above- and below-average years for **each** community within the reference state (when appropriate), and (3) cite data. Continue descriptions on separate sheet if needed. **Weight factors** are either 0.5, 1.0 or 2.0. The default factor is 1.0. A maximum of 8 indicators may be changed to 0.5 or 2.0. The rest remain at 1.0.	**Wgt. Factor**
1. Number and extent of rills: No rills when slopes are < 9%. Rills are rare, small and discontinous on slopes between 9-15%.	1.0
2. Presence of water flow patterns: None.	1.0
3. Number and height of erosional pedestals or terracettes: None.	1.0
4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are *not* bare ground): Bare ground is less than 5%.	1.0
5. Number of gullies and erosion associated with gullies: Gully erosion is not evident in the reference state.	1.0
6. Extent of wind scoured, blowouts and/or depositional areas: None.	1.0
7. Amount of litter movement (describe size and distance expected to travel): Litter is coarse, from 1.5 inches up to 4 inches in length, and will not move more than a couple of inches from where it originated.	1.0
8. Soil surface (top few mm) resistance to erosion (stability values are averages – most sites will show a range of values for both plant canopy and interspaces, if different): Stability values of 4-5 in plant interspaces. Stability values of 5-6 under plant canopies and at plant bases.	1.0
9. Soil surface structure and SOM content (include type and strength of structure, and A-horizon color and thickness for both plant canopy and interspaces, if different): Soil surface structure is moderate or strong granular, A-Horizon is approx 3 to 10 inches thick. Organic matter is between 2-6%.	1.0
10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: Deep-rooted native perennial grasses optimize infiltration and runoff. Bunchgrasses should be spaced approx 1-1.5 feet apart.	1.0
11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): None.	1.0
12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: >>, >, = to indicate much greater than, greater than, and equal to): cool season, mid-height, native perennial bunchgrasses > native perennial and annual forbs ≥ native shrubs.	1.0
13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): Plant mortality is very low; decadence is minimal except in prolonged periods of drought.	1.0
14. Average percent litter cover (60-70%) and depth (0.1 to 0.5 inches).	1.0
15. Expected annual production (this is TOTAL above-ground production, not just forage production): 1440 – 2360 #/acre.	1.0
16. Potential invasive (including noxious) species (native and non-native). List species which characterize degraded states and which, after a threshold is crossed, "will continue to increase regardless of the management of the site" and may eventually dominate the site: Mountain big sage, Sandberg bluegrass, fringed sagewort, thickspike wheatgrass, western wheatgrass, miscellaneous annual/biennial weedy forbs, blue grama, pussytoes.	1.0
17. Perennial plant reproductive capability: All plants are capable of reproducing.	1.0